

Calcium-sensing receptor in GtoPdb v.2025.3

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Abstract

The calcium-sensing receptor (CaS, **provisional nomenclature as recommended by NC-IUPHAR [49] and subsequently updated [81]**) responds to multiple endogenous ligands, including extracellular calcium and other divalent/trivalent cations, polyamines and polycationic peptides, L-amino acids (particularly L-Trp and L-Phe), glutathione and various peptide analogues, ionic strength and extracellular pH (reviewed in [82]). While divalent/trivalent cations, polyamines and polycations are CaS receptor agonists [14, 115], L-amino acids, glutamyl peptides, ionic strength and pH are allosteric modulators of agonist function [36, 49, 65, 113, 114]. Indeed, L-amino acids have been identified as "co-agonists", with both concomitant calcium and L-amino acid binding required for full receptor activation [155, 57]. The sensitivity of the CaS receptor to primary agonists is increased by elevated extracellular pH [18] or decreased extracellular ionic strength [114] while sensitivity is decreased by pathophysiological phosphate concentrations [20]. This receptor bears no sequence or structural relation to the plant calcium receptor, also called CaS.

Contents

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Calcium-sensing receptor

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Introduction to Calcium-sensing receptor

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Receptors

CaS receptor

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